The Journal of JASTRO
日本放射線腫瘍学会誌
CONTENTS OF VOLUME 5

NUMBER 1 MARCH

■ REVIEW ARTICLE

外部放射線治療装置の品質保証

Quality Assurance for External Radiotherapy Equipment in Japan

都丸 禎三

Teizo Tomaru ······ 1

■ ORIGINAL CONTRIBUTIONS

食道癌高線量率腔内照射時のアプリケーターに関する検討

Analysis of the Applicators of High-Dose-Rate Intraluminal Irradiation for Esophageal Cancer Patients

三枝 智恵子，押谷 高志，廣田 佐栄子，辻野 佳世子，副島 俊典
大林 加代子，高田 佳木，吉田 祥二，楢林 勇，木村 修治

Chieko Mieda, Takashi Oshitani, Saeko Hirota, Kayoko Tsujino, Toshinori Soejima,
Kayoko Obayashi, Yoshiki Takada, Shoji Yoshida, Isamu Narabayashi and Shuji Kimura ······ 11

前立腺癌に対する放射線外部照射法の治療成績と副作用

The Result of External Radiotherapy and Side Effect for Prostate Cancer

寒川 光治，仲澤 聖則，関口 建次，阿部 達之，三山 鎮皓，砂川 好光，林 真也，
河合 恒雄，山下 孝

Mitsuharu Sougawa, Masanori Nakazawa, Kenji Sekiguchi, Tatsuyuki Abe, Hiroshi Miyama,
Yoshimitsu Sunakawa, Shinya Hayasi, Tsuneo Kawai and Takashi Yamashita ······ 19

Control of Cervical Node Metastases from Carcinoma of the Oral Tongue by Preoperative Irradiation

Jiro Watarai, Mitsuru Kobayashi, Yasuo Seino, Toshio Kato, Yoshitaka Okamoto and Kiyoshi Togawa ······ 29

Comparisons of Spatial Coordinates of Sources Calculated by Three Methods Based on Two Radiographs in Brachytherapy

Katsuyoshi Tabushi, Susumu Itoh, Mizuyoshi Sakura, Tomoko Kazumoto, Yuzuru Kutsutani-Nakamura, Takeshi A. Iinuma, Tatsuo Arai and Toraji Irifune ······ 35

Radiation Therapy for Retinoblastoma

Iwao Tsukiyama, Takashi Ogino, Yuuichi Kajiura, Yasuyuki Akine, Sunao Egawa and Akihiro Kaneko ······ 43

日本におけるシェルの使用状況 ― 多施設間情報交換のために ―
Use of Casts for Radiotherapy in Japan
伊津野 格, 小口 正彦, 鹿間 直人, 佐々木 茂, 清野 邦弘, 滝沢 正臣, 小口 宏, 武井 一喜
Itaru Izuno, Masahiko Oguchi, Naoto Shikama, Shigeru Sasaki, Kunihiro Kiyono, Masaomi Takizawa, Hiroshi Oguchi and Kazuyoshi Takei ……51
Evaluation of Uneven Fractionation Radiotherapy of Cervical Lymph Node-Metastases by Linear Quadratic Model
Takehito Sasaki, Rikisaburo Kamata, Shingo Urahashi and Tetsuji Yamaguchi ……59
■ ANNOUNCEMENT ……71

NUMBER 2 JUNE

■ SPECIAL LECTURE
The Volume Effect in Radiotherapy
Jack F. Fowler ……75
■ REVIEW ARTICLE
癌細胞と放射線抵抗性
Intrinsic Radiosensitivity in Human Cancer Cell Lines
内海 博
Hiroshi Utsumi ……89
■ ORIGINAL CONTRIBUTIONS
Quantitative Analysis of Radioresistance of Solid Tumors
Takehito Sasaki, Rikisaburo Kamata and Singo Urahashi ……99
Calculation of Cobalt-60 Primary and Scatter Dose in Layered Heterogeneous Phantoms Using Primary and Scatter Dose Spread Arrays
Akira Iwasaki ……107
The Effect of Treatment Time on Pelvic Recurrence in Patients with Stage III-IV Uterine Cervix Cancer
Tadashi Sugawara, Yoshihide Mizutani, Masanori Nakazawa and Kiyoshi Ohkawara ……117
頸部に対する放射線療法施行後の甲状腺機能障害；特に血清 TSH 値上昇における検討
Thyroid Dysfunction after Radiation Therapy to The Neck: Alterations in Serum TSH
副島 俊典, 廣田 佐栄子, 大林 加代子, 高田 佳木, 吉田 祥二, 木村 修治
Toshinori Soejima, Saeko Hirota, Kayoko Obayashi, Yoshiki Takada, Shoji Yoshida and Shuji Kimura ……125

Retrospective Analysis Comparing Combined Chemotherapy and Radiotherapy with Radiotherapy Alone for Nasopharyngeal Carcinoma —Updated Results of Hokkaido University Trial

Akio Takamura, Hirohiko Tsujii, Tadashi Kamada, Jun-etsu Mizoe, Takuro Arimoto, Hiroki Shirato, Yoshisuke Matsuoka, Hiroshi Tsuji and Goro Irie ……133

Influence of Etoposide on The Local Effect to Radiation in Non-Small Cell Lung Cancer — A Randomized Prospective Study —

Kenichi Jingu, Junichi Ohmagari, Koji Masuda, Kazushige Hayakawa, Hideo Niibe, Junichi Oda, Takashi Yamashita, Yutaka Hirokawa, Tsutomu Saito, Rikisaburo Kamata, Kazuyoshi Fukurono, Naofumi Hayabuchi, Masamichi Nishio, Akira Tada, Masashi Cyatani, Takushi Dokiya, Susumu Wada, Kazuo Hata and Nobuya Ogawa ……141

NUMBER 3 SEPTEMBER

■ **REVIEW ARTICLE**

放射線治療計画装置の問題点 — 外部光子照射治療 —

Points to Be Noted in Using Radiation Treatment Planning System — External Photon Beam Therapy —

入船 寅二

Toragi Irifune ……153

■ **ORIGINAL CONTRIBUTIONS**

全身皮膚電子線照射の基礎的研究 — 線源-減衰板間距離が線量分布に及ぼす影響 —

Experimental Study of the Total Skin Electron Beam Irradiation — Effects of Source-Degrader Distance on the Dose Distribution —

垣花 泰政，末山 博男，中野 政雄，金城 司，真栄城 守侯，佐方 周防

Yasumasa Kakihana, Hiroo Sueyama, Masao Nakano, Tsukasa Kinjyo, Syukou Maeshiro and Suoh Sakata ……165

I期非小細胞肺癌放射線治療例における予後因子の解析

Analysis of Prognostic Factors in Cases with Stage I Non-Small Cell Lung Cancer Treated by Radiation Therapy

塚田 博

Hiroshi Tsukada ……173

舌癌電子線治療における頸部予防照射の有用性

The Prophylactic Effect of Neck Irradiation Combined with Intra-Oral Electron Beam Irradiation for Early Tongue Cancer

河守 次郎，鎌田 力三郎，佐貫 栄一，太田 岳樹，前野 俊雄，山口 哲司，齋藤 勉，熊谷 曜子，浦橋 信吾，武藤 晴臣

Jiro Kawamori, Rikisaburo Kamata, Eiichi Sanuki, Takaki Ohta, Toshio Maeno, Tetsuji Yamaguchi, Tsutomu Saito, Yohko Kumagai, Shingo Urahashi and Haruomi Mutoh ……181

Late Complications Following External and High Dose-Rate Intracavitary Irradiation for Cervical Cancer
Tadashi Sugawara, Yoshihide Mizutani, Masanori Nakazawa and Kiyoshi Ohkawara ······189
直線加速器による Stereotactic Radiosurgery — 照射方法の比較検討 —
Stereotactic Radiosurgery Using A Linear Accelerator; A Comparative Study of Irradiation Methods
高山 誠，楠田 順子，池崎 廣海，池田 郁夫，西沢 かな枝，古屋 儀郎
Makoto Takayama, Junko Kusuda, Hiromi Ikezaki, Ikuo Ikeda, Kanae Nishizawa and Yoshiro Furuya ······197
子宮頸癌放射線治療後の二次癌の検討
Second Cancer after Radiotherapy of the Uterine Cervical Cancer
小泉 正，副島 俊典，廣田 佐栄子，大林 加代子，石田 輝子，高田佳木，吉田 祥二，木村 修治
Tadashi Koizumi, Toshinori Soejima, Saeko Hirota, Kayoko Obayashi, Teruko Ishida, Yoshiki Takeda, Shoji Yoshida and Shuji Kimura ······209
Radiation Therapy for Clinical Stage III Non-Small Cell Lung Carcinoma: Results of Treatment and Patterns of Failure
Charn Il Park, Hyong Geun Yun, Young Soo Shim and Noe Kyung Kim······217

NUMBER 4 DECEMBER

■ REVIEW ARTICLE
放射線治療の歴史 — わが国における物理・技術を中心にして
Historical Review of Radiotherapy — Physical and Technical Aspects in Japan —
尾内 能夫
Yoshio Onai ······229
■ TECHNICAL NOTE
Radiosurgery における MVX 線ナロー・ビームのフィルムによる線量測定
Film Dosimetry for Narrow Beams of Megavoltage X-Ray in Stereotactic Radiosurgery
池崎 廣海，池田 郁夫，高山 誠，楠田 順子，西沢 かな枝
Hiromi Ikezaki, Ikuo Ikeda, Makoto Takayama, Junko Kusuda and Kanae Nishizawa ······245
■ ORIGINAL CONTRIBUTIONS
臓器別 TDF 分布図
Organ-Specific TDF Distribution
小幡 康範，津坂 昌利，藤井 洋司，清水 弥生，金子 勝太郎
Yasunori Obata, Masatoshi Tsuzaka, Yoji Fujii, Yayoi Shimizu and Katsutaro Kaneko ······253

Definitive Radiation Therapy for Clinical Stage N0-N1 Epidermoid Carcinoma of The Lung
Kazushige Hayakawa, Norio Mitsuhashi, Yoshihiro Saito, Michitaka Yamakawa, Yuko Nakayama, Susumu Katano, Masaya Furuta and Hideo Niibe ····················261
放射線照射後の腫瘍内血管密度と薬剤到達性の変化
Changes of Vascular Density and Drug Distribution in Tumors after Irradiation
根本 建二，宮地 秀夫，坂本 澄彦
Kenji Nemoto, Hideo Miyachi, Kiyohiko Sakamoto···271
陽子線治療における線量投入条件 —標的容積外に障害を起こさぬために—
Evaluation of Irradiation Conditions for Proton Radiotherapy
稲田 哲雄，高田 義久，舘野 之男
Tetsuo Inada, Yoshihisa Takada and Yukio Tateno··277
Results of Combination Chemo-Radiotherapy for Nasopharyngeal Cancer
Saeko Hirota, Toshinori Soejima, Takashi Oshitani, Takeyuki Kushima, Eiji Ueda, Kayoko Obayashi, Yoshiki Takada and Shuji Kimura ·······················285
Relations Between Radiobiological Hypoxia and Nuclear Magnetic Resonance-Imaged Blood Microcirculation in Experimental Tumors
Sachiko Koike, Koichi Ando and Hiroo Ikehira ···293
External Thermoradiotherapy in Superficial Tumors: Basic Considerations and Results
M. Heinrich Seegenschmiedt and Rolf Sauer ···303